

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Shinichiro NISHIMURA et al.  
Application No. : 10/540,723  
Filed : April 19, 2006  
For : METHOD OF PURIFYING/CONCENTRATING SUGAR CHAIN  
WITH SUGAR CHAIN-TRAPPING MOLECULE AND METHOD  
OF ANALYZING SUGAR CHAIN STRUCTURE  
Examiner : Peter G. O'Sullivan  
Art Unit : 1621  
Docket No. : 850148.401USPC  
Date : July 16, 2010

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

RESPONSE TO RESTRICTION REQUIREMENT

Commissioner for Patents:

In response to the Restriction Requirement dated June 16, 2010, Applicants hereby elect with traverse, Group I, claims 1-18 and 44-48, drawn to substances which can interact with sugar chains, methods for synthesizing them and methods for separating, concentrating or purifying sugar chains. Applicants further elect with traverse, Subgroup (A), active substances that are polymers; Subgroup 1, phosphorus containing active substances; compound 4 as shown in Figure 2; and the synthesis scheme disclosed on page 140, lines 3-21 of the as-filed specification as the method of making compound 4, for examination purposes only.

RESTRICTION REQUIREMENT

The Examiner alleges that the instant application contains eight groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. Specifically, the Examiner alleges that, under PCT rule 13.2, Groups 1-8 lack the same or corresponding technical features for the following reasons:

- (i) Other methods, for example using electrophoresis and fluorescence may be used for purification and analysis;
- (ii) Other methods, for example synthesis of sugar chains could be used to form applicants' sugar chain compositions;
- (iii) Methods for analyzing sugar chains would not necessarily suggest methods for analyzing a substance binding to sugar chains or to methods for separating, concentrating or purifying sugar chains; and

- (iv) The compounds of subgroups A and B as well as I-4 are so structurally disparate, that a reference anticipating one group would not necessarily render the other groups obvious.

As an initial point, Applicants, point out that M.P.E.P. § 1893.03(d) states that Examiners are reminded that unity of invention (not restriction practice pursuant to 37 CFR 1.141 - 1.146) is applicable in international applications (both Chapter I and II) and in national stage applications submitted under 35 U.S.C. 371. Moreover, Applicants submit that when making a lack of unity of invention requirement, the Examiner must (1) list the different groups of claims and (2) explain why each group lacks unity with each other group (*i.e.*, why there is no single general inventive concept) specifically describing the unique special technical feature in each group. M.P.E.P. § 1893.03(d).

Applicants respectfully submit that the Examiner has failed to explain why each group lacks unity with each other group, specifically describing the unique special technical feature in each group as required in the M.P.E.P. § 1893.03(d). Furthermore, Applicants submit that a group of inventions is considered linked to form a single general inventive concept where there is a technical relationship among the inventions that involves at least one common or corresponding special technical feature. The expression, special technical feature, is defined as meaning those technical features that define the contribution which each claimed invention, considered as a whole, makes over the prior art. Applicants submit that a common or corresponding special technical feature of the presently claimed invention is the substance that specifically interacts with sugar chains; thus, establishing a single general inventive concept among the claims.

In addition, Applicants submit that the Examiner has failed to identify any prior art that would destroy the novelty or inventive step of the presently claimed invention. Thus, the particular technical feature, the substance that specifically interacts with sugar chains, makes a “contribution” over the prior art, and therefore, constitutes a “special technical feature.”

ELECTION OF SUBGROUPS A/B AND I-4

The Examiner has required Applicants to elect a particular subgroup of active substances of Subgroup A, polymers, or Subgroup B, non-polymers. Specifically, the Examiner requires the election of active substances that are:

- 1) Phosphorus containing;
- 2) Semicarbazide or thiosemicarbazide containing but not phosphorus containing;
- 3) Urea or thiourea containing but not semi carbazole, thiosemicarbazide or phosphorus containing; or
- 4) Carboxamide or thiocarboxamide containing but not urea, thiourea, semicarbazide, thiosemicarbazide or phosphorus containing.

Applicants respectfully traverse this basis for species election. Applicants submit that the Examiner has failed to show the foregoing subgroups lack the same special technical feature.

Applicants respectfully submit that a common or corresponding special technical feature among the disclosed polymers is the inclusion of a functional group that is capable of binding to a sugar chain as disclosed in the as-filed specification, rather than distinguishing how the polymer is polymerized, i.e., the particular active group.

*ELECTION OF THE METHOD OF MAKING THE COMPOUNDS OF GROUP I*

The Examiner has also required Applicants to elect a method of making a single disclosed active compound if Group I is elected. Applicants traverse this requirement for species election because the Examiner has failed to identify the particular species that require election or provide any reasoning that such species would allegedly lack the same common or corresponding special technical feature. Accordingly, Applicants respectfully request that the Examiner identify, which particular methods of making elected compound 4 require election.

Applicants respectfully submit that the Examiner has failed to produce evidence to substantiate the allegations that the presently claimed invention lacks unity. Thus, Applicants respectfully request that the Examiner reconsider and withdraw these requirements for restriction and, group and subgroup elections.

Consideration of the elected claims is now requested.

Respectfully submitted,

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